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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/728,836

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Kushagra Vaid

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26694

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EXAMINER

MEHRMANESH, ELMIRA

ART UNIT

PAPER NUMBER

2113

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/728,836	<b>Applicant(s)</b> VAID ET AL.	
	<b>Examiner</b> Elmira Mehrmanesh	<b>Art Unit</b> 2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The application of Vaid et al., for a "Poisoned error signaling for proactive OS recovery" filed December 8, 2003, has been examined.

Claims 1-27 are presented for examination.

Claims 21-27 are rejected under 35 USC § 101.

Claims 1-27 are rejected under 35 USC § 102.

### ***Specification***

The disclosure is objected to because of the following informalities: On page 2, paragraph [0019], line 11 of the detailed description, "a" needs to be omitted.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 21-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 21-27, the claims are not limited to tangible embodiments. In view of Applicant's disclosure, specification on (page 1, paragraph [0007]), the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., floppy disk, CD) and intangible embodiments (e.g., the use of

intangible media such as signals, carrier waves, transmissions). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Meaney et al. (U.S. PGPUB No. 20040139374).

As per claim 1, Meaney discloses a method of addressing data errors in a computer system (page 2, paragraph [0015], lines 2-10), comprising:  
error-checking a unit of data (page 4, paragraph [0041]) and (Fig. 7, element 704).  
if at least one uncorrectable error is detected in the unit of data, marking the unit of data with an indication that the unit of data contains erroneous data (page 4, paragraph [0043]) and (Fig. 3, element 305).  
detecting, by the computer system, the presence of the indication that the unit of data contains erroneous data (page 4, paragraph [0043])

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and acting, by an operating system of the computer system, upon the presence of the indication to address the presence of erroneous data in the unit of data, wherein the operating system is not always brought down upon the presence of the indication (page 2, paragraph [0019], lines 18-21) and (page 6, paragraph [0055], lines 10-24) and (page 8, paragraph [0071], lines 24-30).

As per claim 2, Meaney discloses said error-checking comprises: applying error-control decoding to the unit of data (Fig. 3).

As per claim 3, Meaney discloses said error-checking further comprises: correcting any correctable errors in the unit of data (page 4, paragraph [0041], lines 3-6).

As per claim 4, Meaney discloses said marking the unit of data comprises: setting a data poisoning indicator (page 4, paragraph [0043]).

As per claim 5, Meaney discloses said acting upon the presence of the indication comprises: removing the unit of data from use by the operating system (page 4, paragraph [0043]) and (page 6, paragraph [0060], lines 13-15).

As per claim 6, Meaney discloses said acting upon the presence of the indication further comprises: recovering the unit of data (page 4, paragraph [0041], lines 3-6).

As per claim 7, Meaney discloses said marking comprises: setting a data poisoning indicator of said unit of data if the uncorrectable error is a data poisoning error; (page 4, paragraph [0043]) and otherwise, not setting said data poisoning indicator (page 6, paragraph [0060], lines 1-11).

As per claim 8, Meaney discloses if the operating system detects the presence of an uncorrected error in the unit of data, determining if the unit of data is in user space (page 6, paragraph [0060], lines 9-13) and if the unit of data is in user space, terminating an application running on the computer system and removing the unit of data from use by the operating system (page 6, paragraph [0060], lines 13-15).

As per claim 9, Meaney discloses upon detection of an uncorrectable error in said unit of data, providing information to said operating system to enable recovery of said unit of data (page 4, paragraph [0043]).

As per claim 10, Meaney discloses the information includes a target address corresponding to said unit of data (page 6, paragraph [0056]) and (Fig. 6A-C).

As per claim 11, Meaney discloses determining whether or not to take immediate action on detection of a data-poisoning error (page 6, paragraph [0055], lines 18-24).

As per claim 12, Meaney discloses said determining whether or not to take immediate action on detection of a data-poisoning error comprises: setting a software-visible control bit (page 6, paragraph [0055], lines 18-24).

As per claim 13, Meaney discloses said detecting is performed by at least one of: a processor (Fig. 1, element 100) and a memory (Fig. 1, element 102).

As per claim 14, Meaney discloses a computer system comprising:

at least one processor (Fig. 1, element 100)

at least one of an error-control decoder, software to implement error-control decoding by the at least one processor, and firmware to implement error-control decoding in conjunction with the at least one processor, adapted to process units of data and to mark as bad a unit of data containing at least one uncorrectable error (page 6, paragraph [0055], lines 15-24) and (page 4, paragraph [0043]).

and at least one operating system (page 6, paragraph [0060], lines 13-15) running on said at least one processor, the operating system adapted to detect the presence of a unit of data marked as being bad and to act upon said presence to mitigate the at least one uncorrectable error without always bringing down the operating system upon detection of a unit of data marked as being bad (page 2, paragraph [0019], lines 18-21)

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and (page 6, paragraph [0055], lines 10-24) and (page 8, paragraph [0071], lines 24-30).

As per claim 15, Meaney discloses a memory coupled to said at least one of an error-control decoder, software to implement error-control decoding, and firmware to implement error-control decoding, wherein the at least one of an error-control decoder, software to implement error-control decoding, and firmware to implement error-control decoding is adapted to process units of data stored in the memory (page 6, paragraph [0055], lines 15-24) and (page 4, paragraph [0043]).

As per claim 16, Meaney discloses said memory comprises: a processor cache (Fig. 2, element 204).

As per claim 17, Meaney discloses at least one bus (Fig. 7, element 702) coupled to said at least one of an error-control decoder, software to implement error-control decoding, and firmware to implement error-control decoding, wherein the at least one of an error-control decoder, software to implement error-control decoding, and firmware to implement error-control decoding is adapted to process units of data passing through the at least one bus (page 6, paragraph [0055], lines 15-24) and (page 4, paragraph [0043]).



As per claim 18, Meaney discloses logic (Fig. 7, element 704) adapted to control signaling of information relating to one or more uncorrectable data errors (Fig. 7, element 708).

As per claim 19, Meaney discloses the logic comprises: programmable logic (page 6, paragraph [0055], lines 15-24).

As per claim 20, Meaney discloses the information includes a target address corresponding to a unit of data containing at least one uncorrectable error (page 6, paragraph [0056]) and (Fig. 6A-C).

As per claim 21, Meaney discloses a machine-accessible medium containing software code that, when read by a computer (page 6, paragraph [0055], lines 15-24) causes the computer to perform a method comprising:

error-checking a unit of data (page 4, paragraph [0041]) and (Fig. 7, element 704).

if at least one uncorrectable error is detected in the unit of data, marking the unit of data with an indication that the unit of data contains erroneous data (page 4, paragraph [0043]) and (Fig. 3, element 305)

detecting the presence of the indication that the unit of data contains erroneous data (page 4, paragraph [0043])

and acting, by an operating system of the computer, upon the presence of the indication to address the presence of erroneous data in the unit of data, wherein the operating system is not always brought down upon the presence of the indication (page 2, paragraph [0019], lines 18-21) and (page 6, paragraph [0055], lines 10-24) and (page 8, paragraph [0071], lines 24-30).

As per claim 22, Meaney discloses software code that, when read by a computer, causes the computer to also perform the following: if the operating system detects the presence of an uncorrected error in the unit of data, determining if the unit of data is in user space (page 6, paragraph [0060], lines 9-13) and if the unit of data is in user space, terminating an application running on the computer and removing the unit of data from use by the operating system (page 6, paragraph [0060], lines 13-15).

As per claim 23, Meaney discloses said acting upon the presence of the indication comprises: removing the unit of data from use by the operating system (page 4, paragraph [0043]) and (page 6, paragraph [0060], lines 13-15).

As per claim 24, Meaney discloses a computer system comprising:  
at least one processor (Fig. 1, element 100)  
and at least one machine-accessible medium coupled to the at least one processor, the at least one processor accessing the at least one machine-accessible medium and executing software code stored on the at least one machine-accessible medium,

causing the computer system (page 6, paragraph [0055], lines 15-24) to perform a method comprising: error-checking a unit of data (page 4, paragraph [0041]) and (Fig. 7, element 704).

if at least one uncorrectable error is detected in the unit of data, marking the unit of data with an indication that the unit of data contains erroneous data (page 4, paragraph [0043]) and (Fig. 3, element 305)

detecting the presence of the indication that the unit of data contains erroneous data (page 4, paragraph [0043])

and acting, by an operating system of the computer system, upon the presence of the indication to address the presence of erroneous data in the unit of data, wherein the operating system is not always brought down upon the presence of the indication (page 2, paragraph [0019], lines 18-21) and (page 6, paragraph [0055], lines 10-24) and (page 8, paragraph [0071], lines 24-30).

As per claim 25, Meaney discloses the at least one machine-accessible medium further comprises software code executed by the at least one processor such that the computer system further performs: if the operating system detects the presence of an uncorrected error in the unit of data, determining if the unit of data is in user space (page 6, paragraph [0060], lines 9-13) and if the unit of data is in user space, terminating an application running on the computer and removing the unit of data from use by the operating system (page 6, paragraph [0060], lines 13-15).

As per claim 26, Meaney discloses the at least one machine-accessible medium further comprises software code executed by the at least one processor, such that the computer system further performs: removing the unit of data from use by the operating system (page 4, paragraph [0043]) and (page 6, paragraph [0060], lines 13-15).

As per claim 27, Meaney discloses at least one bus coupling the at least one processor with the at least one machine-accessible medium (Fig. 1, element 100).

### **Related Prior Art**

The following prior art is considered to be pertinent to applicant's invention, but nor relied upon for claim analysis conducted above.

Barker et al. (U.S. Patent No. 6,052,819), "System and method for detecting correcting and discarding corrupted data packets in a cable data delivery system".

Chen et al. (U.S. Patent No. 6,457,154), "Detecting address faults in an ECC-protected memory".

Duxbury (U.S. Patent No. 6,460,154), "Data error correction system".

### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmira Mehrmanesh whose telephone number is (571) 272-5531. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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